OIPE TC1700 APR 10 2001 PATENT & TRADEMARK OFFICE

PATENT

#13

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: Blanset et al.

Group No. Not yet assigned

Serial No.: 09/735,093

Examiner: Not yet assigned

Filed: 12/12/2000

For: SYSTEM AND METHOD FOR AUTOMATICALLY CONFIGURED CROSS-CONNECTIONS IN A DIGITAL SUBSCRIBER LINE ACCESS MULTIPLEXER (DSLAM)

Commissioner of Patents and Trademarks
Washington, D.C. 20231

TRANSMITTAL OF FORMAL DRAWINGS PRIOR TO NOTICE OF ALLOWANCE

Attached please find the formal drawings for this application that have been corrected to comply with 37 CFR 1.184 (18 Pages).

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NOTE: According to 37 CFR 1.84(1), identifying indicia (such as the attorney's docket number, inventor's name, number of sheets, etc.) not to exceed 2 3/4 inches may be placed in a centered location between the side edges within three-fourths inch of the top of the edge. Either this marking technique on the front of the drawing or the placement of this information on the back of the drawing is accepted. However, for identification of the application number, the PTO prefers that it be placed on the front. Notice of September 30, 1986 91070 O.G. 47-59, 54-5).

CERTIFICATE OF MAILING (37 CFR 1.8)

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Rachele Hamblin

Date: 4-4-01

TOTHO" E60SE260

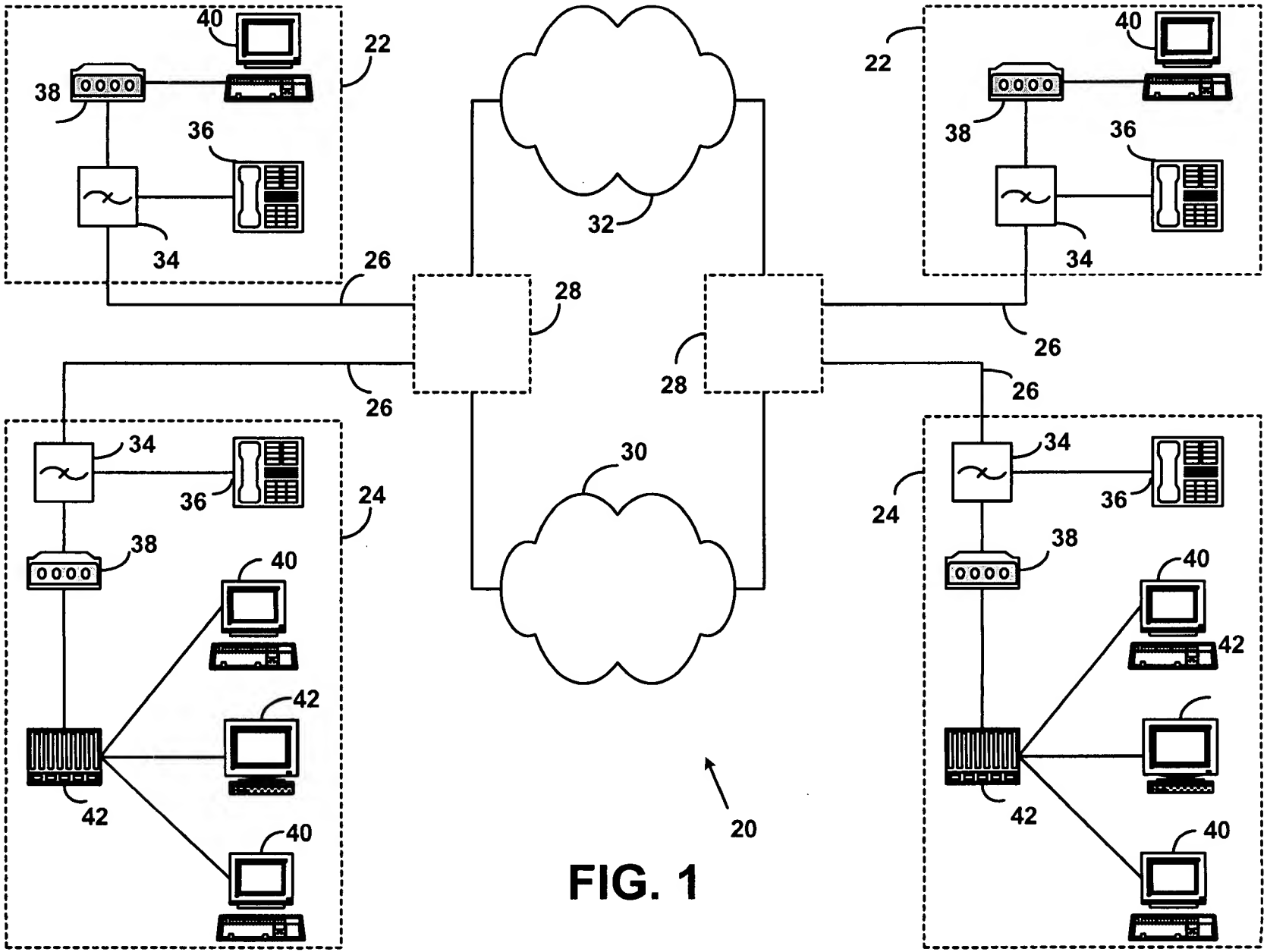

FIG. 1

TOOTHO" E60SE260

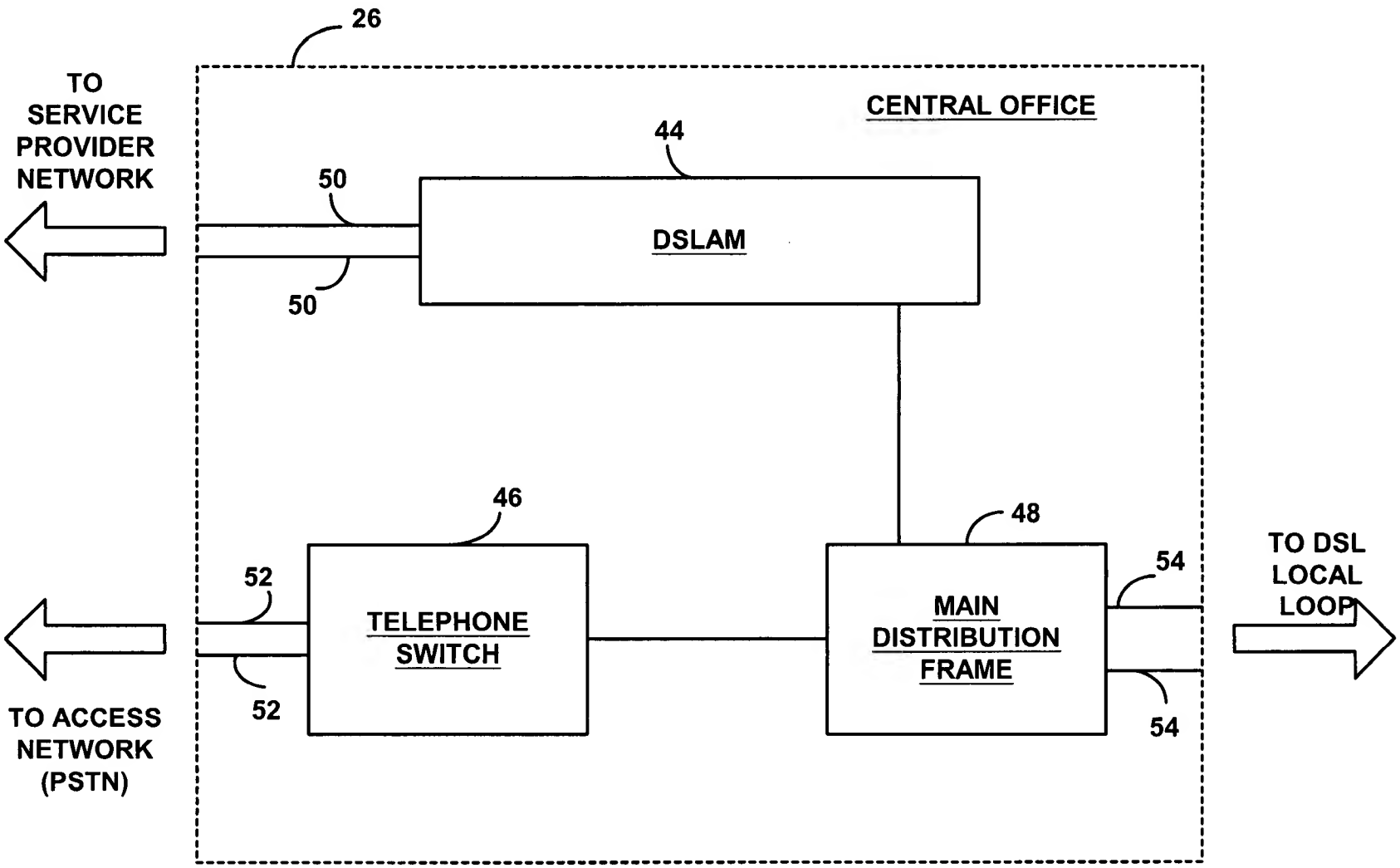

FIG. 2

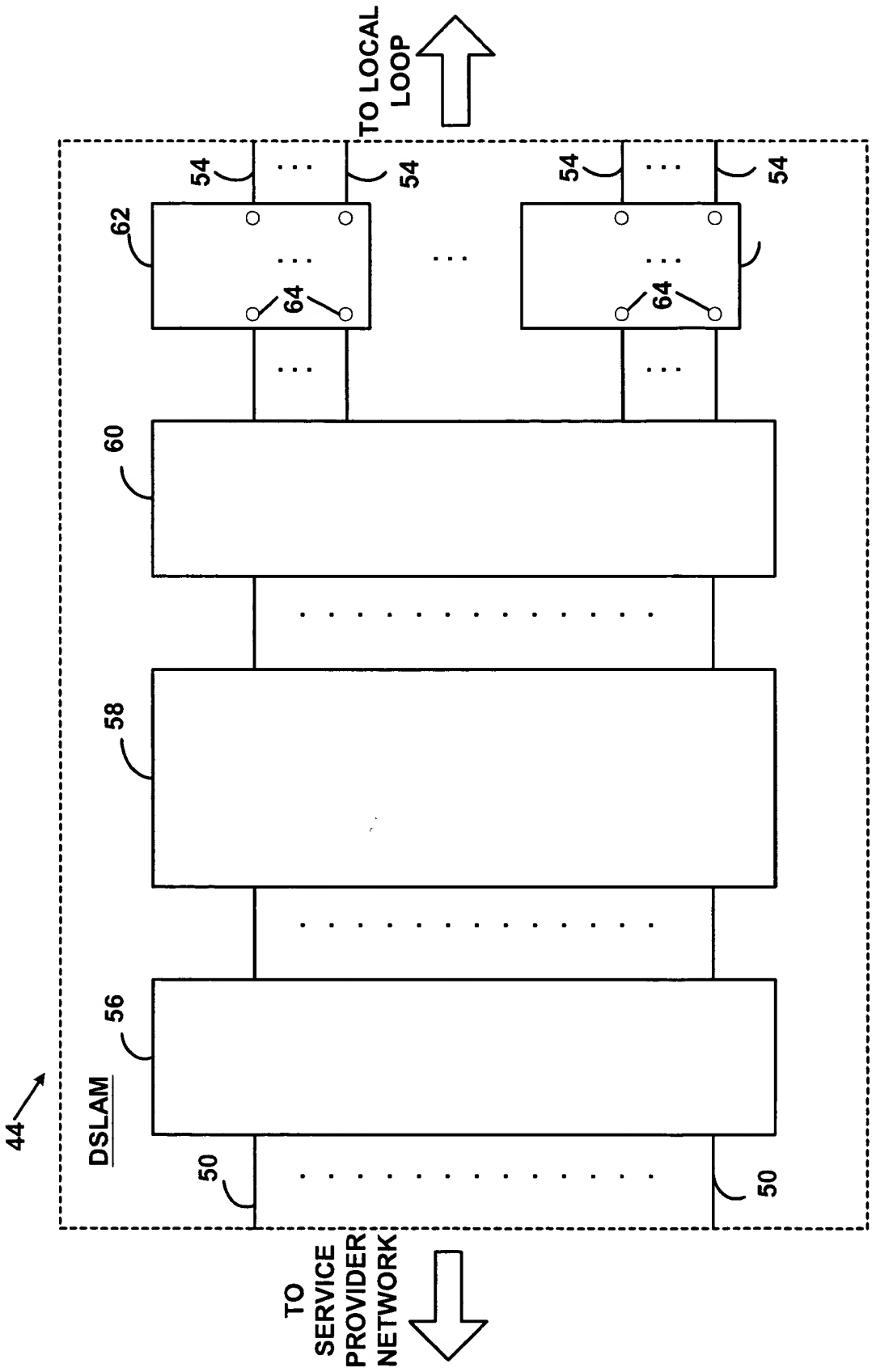
TO LOCAL LOOP
54
54
54
54
62
64
64
60
58
56
DSLAM
44
50
50
TO SERVICE PROVIDER NETWORK

FIG. 3

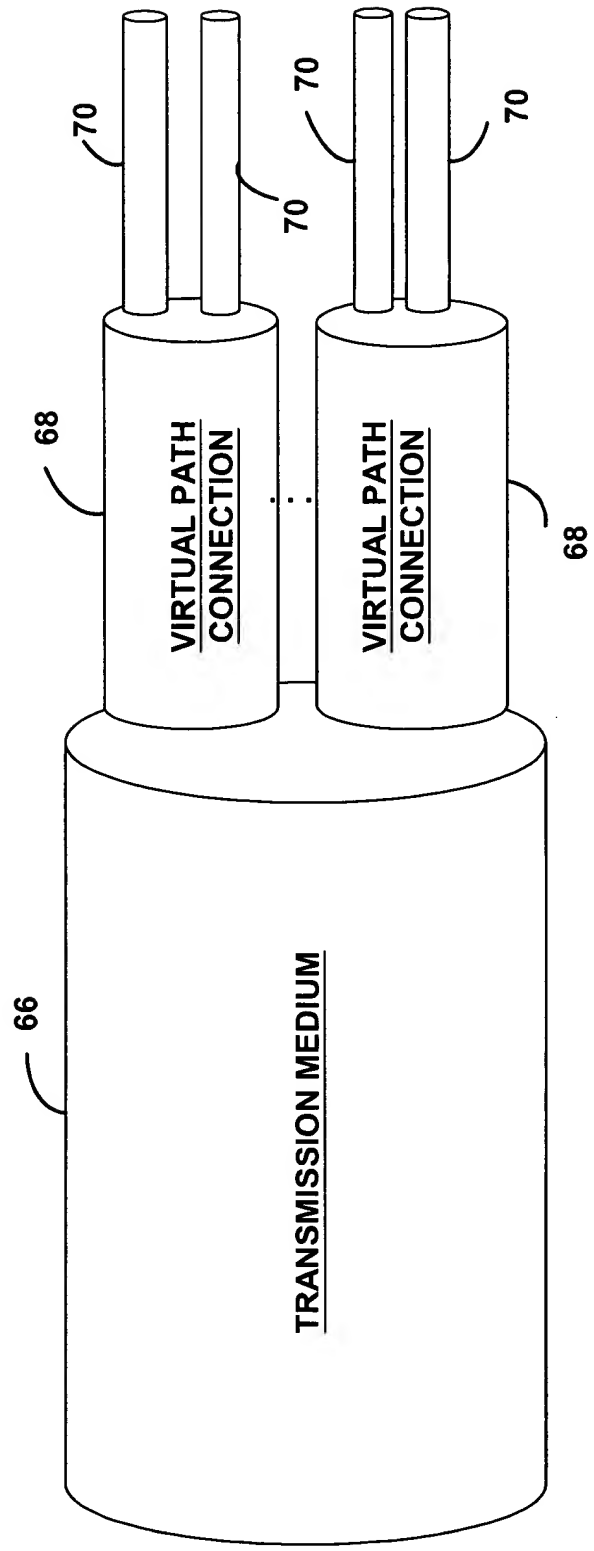
70
70
70
70
68
VIRTUAL PATH CONNECTION
VIRTUAL PATH CONNECTION
68
66
TRANSMISSION MEDIUM

FIG. 4

TOTHO "E60SE260

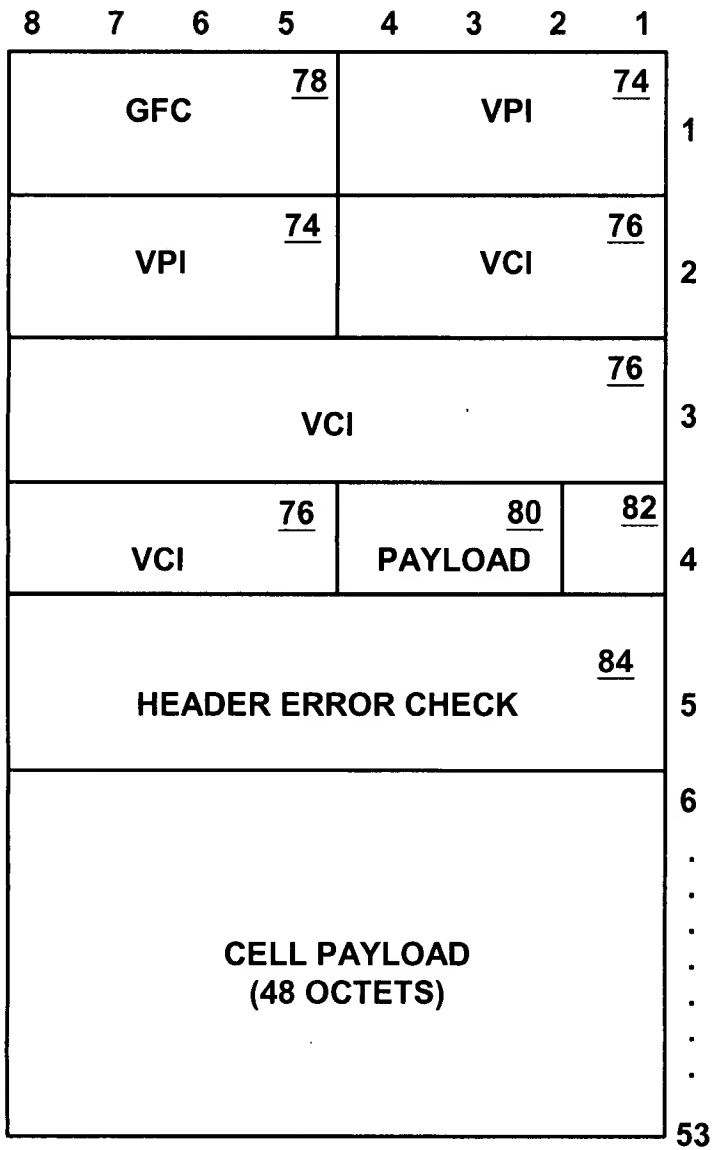

FIG. 5

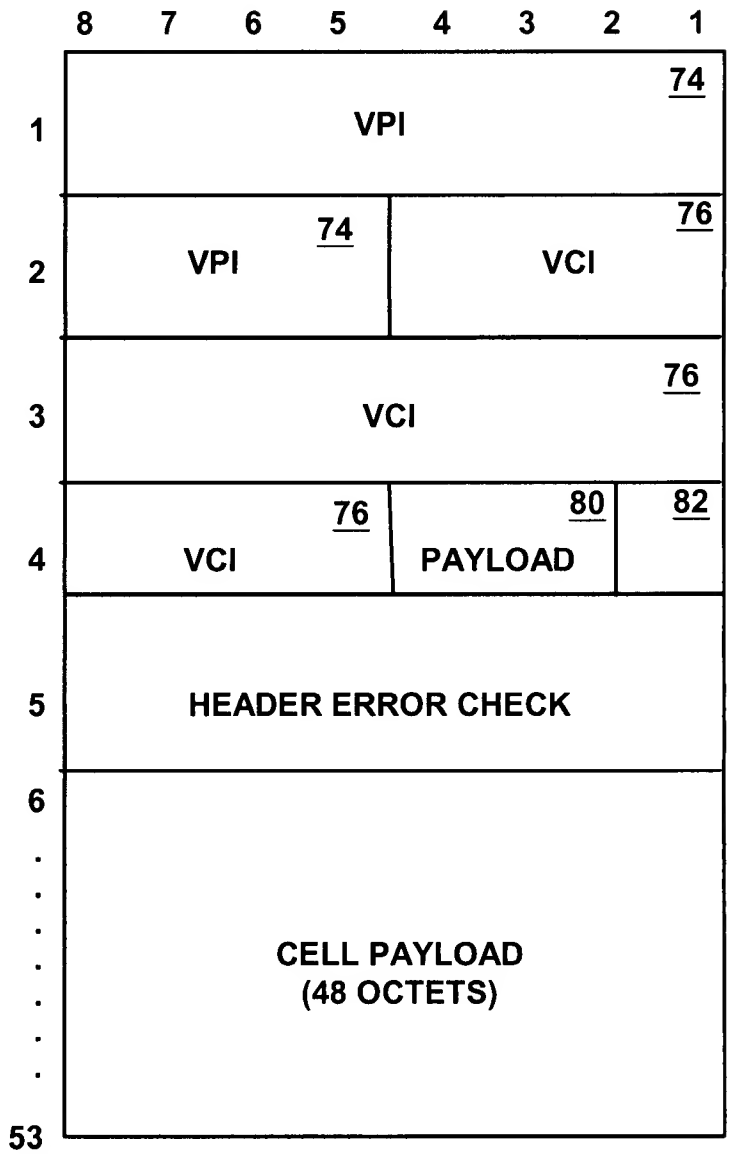

FIG. 6

5918

TOOTHO" E60SE260

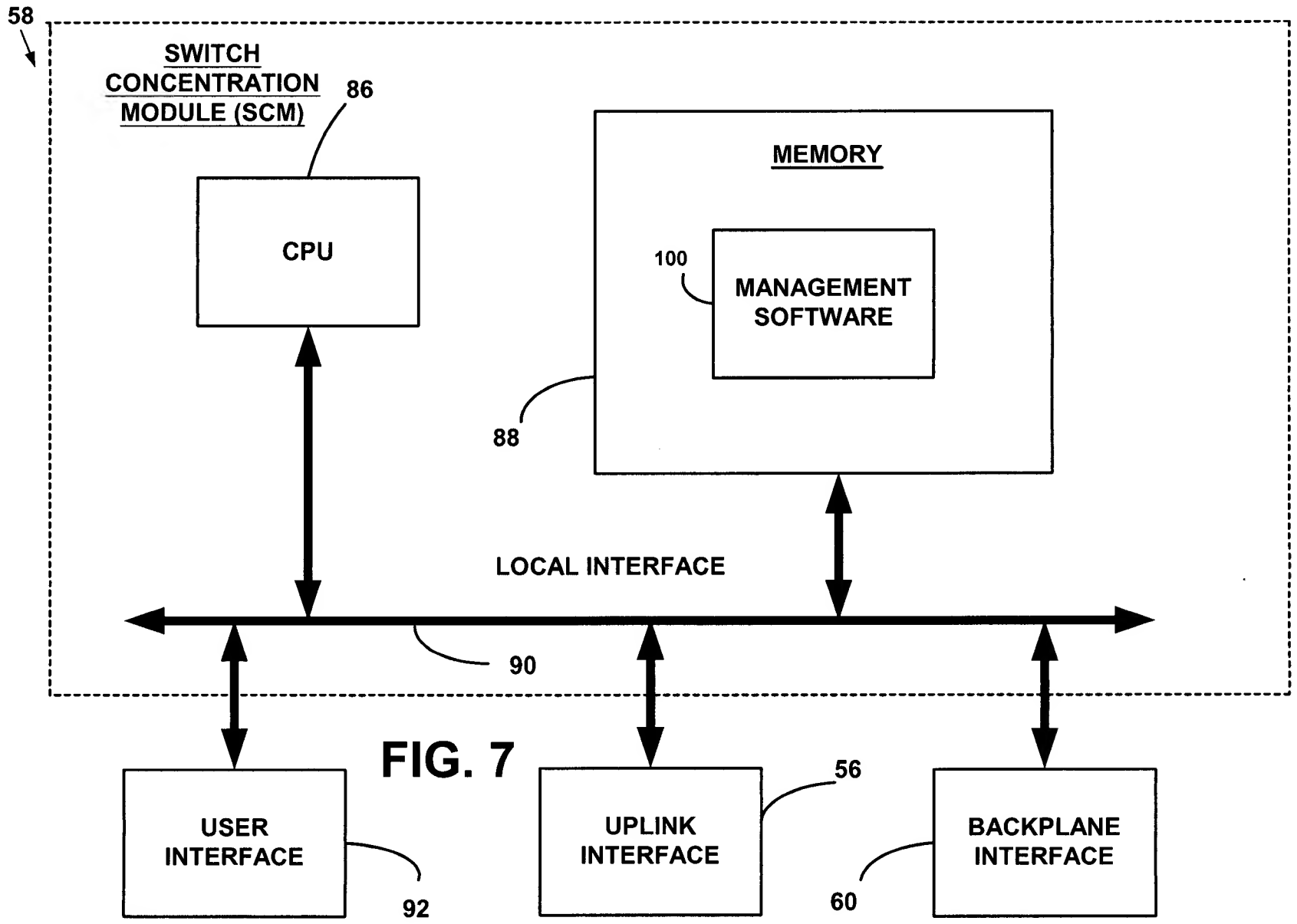

FIG. 7

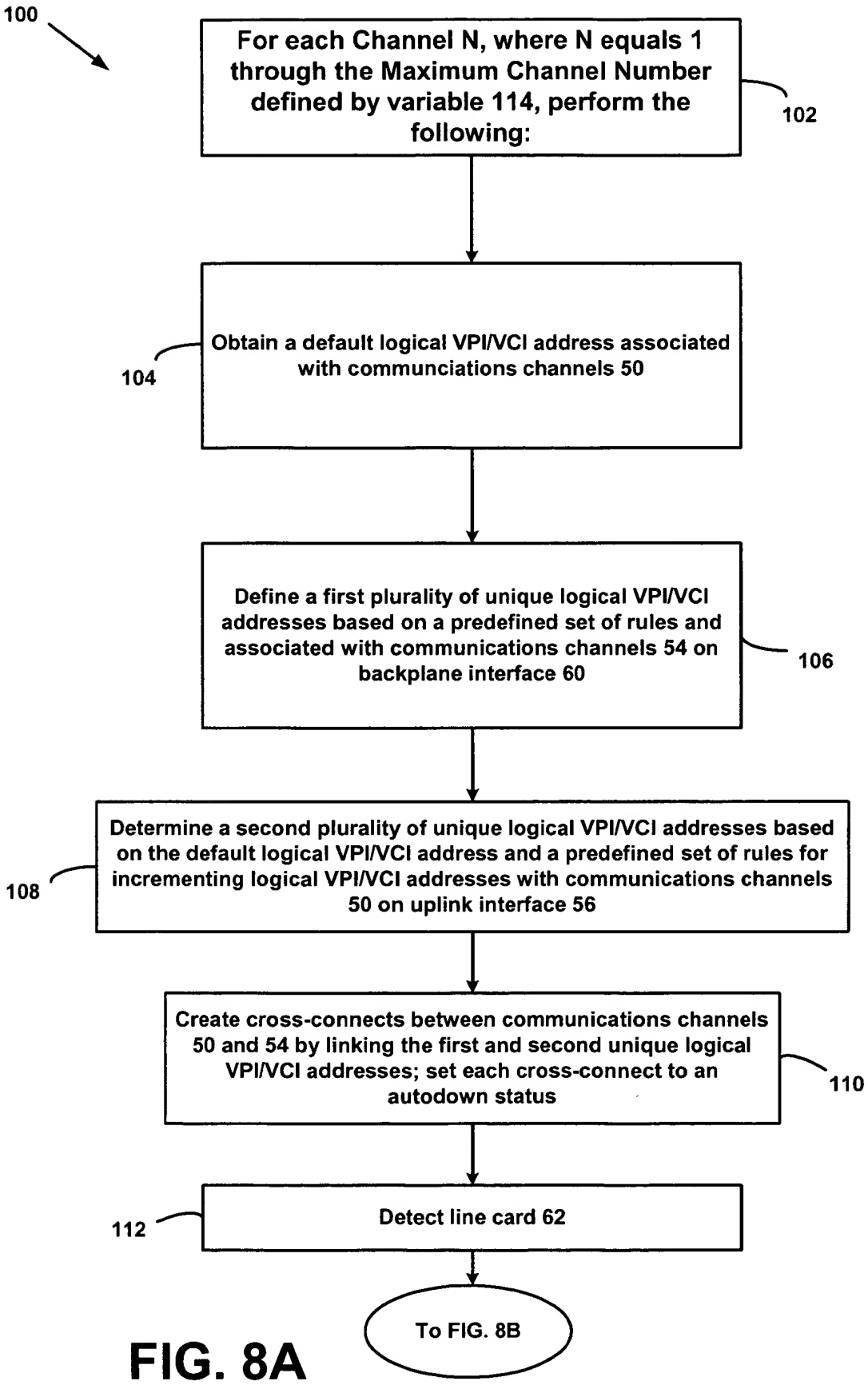
100
For each Channel N, where N equals 1 through the Maximum Channel Number defined by variable 114, perform the following:
102
Obtain a default logical VPI/VCI address associated with communciations channels 50
104
Define a first plurality of unique logical VPI/VCI addresses based on a predefined set of rules and associated with communications channels 54 on backplane interface 60
106
Determine a second plurality of unique logical VPI/VCI addresses based on the default logical VPI/VCI address and a predefined set of rules for incrementing logical VPI/VCI addresses with communications channels 50 on uplink interface 56
108
Create cross-connects between communications channels 50 and 54 by linking the first and second unique logical VPI/VCI addresses; set each cross-connect to an autodown status
110
Detect line card 62
112
To FIG. 8B

FIG. 8A

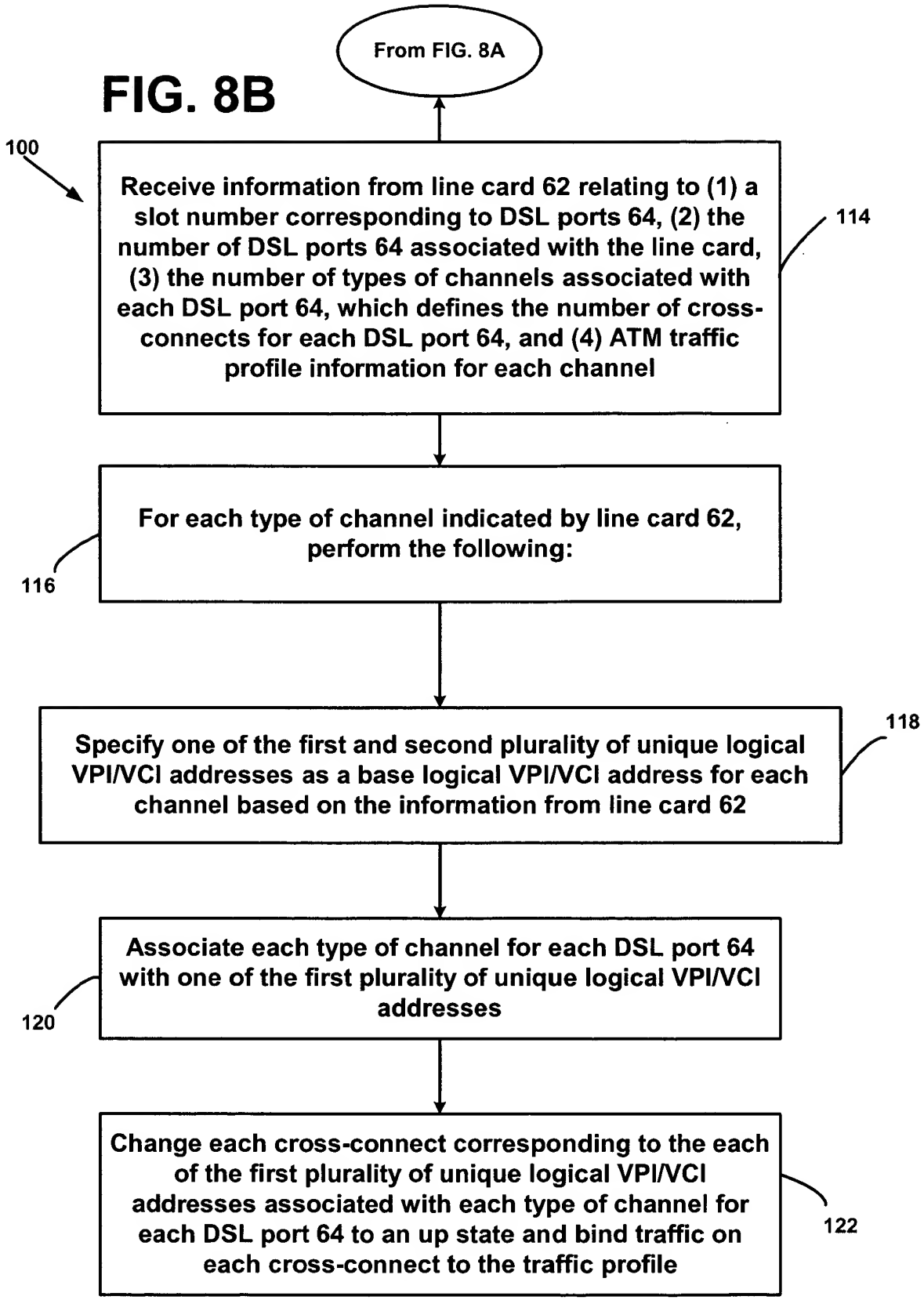
From FIG. 8A
100
Receive information from line card 62 relating to (1) a slot number corresponding to DSL ports 64, (2) the number of DSL ports 64 associated with the line card, (3) the number of types of channels associated with each DSL port 64, which defines the number of cross-connects for each DSL port 64, and (4) ATM traffic profile information for each channel
114
For each type of channel indicated by line card 62, perform the following:
116
Specify one of the first and second plurality of unique logical VPI/VCI addresses as a base logical VPI/VCI address for each channel based on the information from line card 62
118
Associate each type of channel for each DSL port 64 with one of the first plurality of unique logical VPI/VCI addresses
120
Change each cross-connect corresponding to the each of the first plurality of unique logical VPI/VCI addresses associated with each type of channel for each DSL port 64 to an up state and bind traffic on each cross-connect to the traffic profile
122

FIG. 8B

144 LINE CARD VARIABLE	VALUE
146 SLOT #	
148 NUMBER OF PORTS	
150 REQUESTED NUMBER OF CHANNELS PER PORT	
152 REQUESTED TRAFFIC PROFILE INDICATOR PER CHANNEL	

FIG. 9

154 DSL PORT VARIABLE	VALUE
154 DSL PORT #	
156 MAX VPI	
158 MAX VCI	
160 STATUS	
162 CONFIGURATION PARAMETERS (# channels, ATM parameters, upstream and downstream rate table, etc.)	

FIG. 10

Docket No. 1400.1050000

166 BACKPLANE INTERFACE VARIABLE	VALUE
168 INTERFACE ID	
170 MAX VPI	
172 MAX VCI	
174 STATUS	
176 OTHER PARAMETERS	

FIG. 11

178 UPLINK INTERFACE VARIABLE	VALUE
180 INTERFACE ID	
182 MAX VPI	
184 MAX VCI	
186 STATUS	
188 OTHER PARAMETERS	

FIG. 12

Docket No. 50277-0150

190 CROSS-CONNECT VARIABLE	VALUE
192 CROSS CONNECT ID	
194 IFINDEX1	
196 VPI1	
200 VCI1	
202 IFINDEX2	
204 VPI2	
206 VCI2	

FIG. 13

Docket No. 50277-0800

210 CROSS-CONNECTION TABLE		
212 **UPLINK INTERFACE:VPI:VCI** [UPLINK INTERFACE = Ifup = 1] [VPI0 ≤ VPI ≤ VPIm] [VCI0 ≤ VCI ≤ VCIm] [p = number of ports per card] [c = number of cards in system]	216 **STATUS**	214 **BACKPLANE INTERFACE:VPI:VCI** [IF1 ≤ BACKPLANE INTERFACE ≤ IFc] [VPI0 = fixed starting VPI] [VCI0 fixed starting VCI] [p = number of ports per card] [c = number of cards in system]
IFup:VPI0:VCI0		IF1:VPI0:VCI0
IFup:VPI0:VCI0+1		IF1:VPI0+1:VCI0
.		.
IFup:VPI0:VCI0+p-2		IF1:VPI0+p-2:VCI0
IFup:VPI0:VCI0+p-1		IF1:VPI0+p-1:VCI0
IFup:VPI0:VCI0+p		IF2:VPI0/ VCI0
IFup:VPI0:VCI0+p+1		IF2:VPI0+1:VCI0
.		.
IFup:VPI0:VCI0+p*2-2		IF2:VPI0+p-2:VCI0
IFup:VPI0:VCI0+p*2-1		IF2:VPI0+p-1:VCI0
.		.
IFup:VPI0:VCI0+p*(c-2)		IF2:VPI0/ VCI0
IFup:VPI0:VCI0+p*(c-2)+1		IF2:VPI0+1:VCI0
.		.

FIG. 14A

TOTHO" E605E260

210	CROSS-CONNECTION TABLE	
212 UPLINK INTERFACE:VPI:VCI [UPLINK INTERFACE = Ifup = 1] [VPI0 ≤ VPI ≤ VPIm] [VCI0 ≤ VCI ≤ VCIm] [p = number of ports per card] [c = number of cards in system]	216 STATUS	214 BACKPLANE INTERFACE:VPI:VCI [IF1 ≤ BACKPLANE INTERFACE ≤ IFc] [VPI0 = fixed starting VPI] [VCI0 fixed starting VCI] [p = number of ports per card] [c = number of cards in system]
IFup:VPI0:VCI0+p*(c-1)-2		IFc:VPI0+p-2:VCI0
IFup:VPI0:VCI0+p*(c-1)-1		IFc:VPI0+p-1:VCI0
IFup:VPI1:VCI1		IF1:VPI0:VCI1
IFup:VPI1:VCI1+1		IF1:VPI0+1:VCI1
.		.
IFup:VPI1:VCI1+p-2		IF1:VPI0+p-2:VCI1
IFup:VPI1:VCI1+p-1		IF1:VPI0+p-1:VCI1
IFup:VPI1:VCI1+p		IF2:VPI0/ VCI1
IFup:VPI1:VCI1+p+1		IF2:VPI0+1:VCI1
.		.
IFup:VPI1:VCI1+p*(c-2)		IF2:VPI0/ VCI1
IFup:VPI1:VCI1+p*(c-2)+1		IF2:VPI0+1:VCI1
.		.

FIG. 14B

1388

210 CROSS-CONNECTION TABLE		
212 **UPLINK INTERFACE:VPI:VCI** [UPLINK INTERFACE = Ifup = 1] [VPI0 ≤ VPI ≤ VPIm] [VCI0 ≤ VCI ≤ VCIm] [p = number of ports per card] [c = number of cards in system]	216 **STATUS**	214 **BACKPLANE INTERFACE:VPI:VCI** [IF1 ≤ BACKPLANE INTERFACE ≤ IFc] [VPI0 = fixed starting VPI] [VCI0 fixed starting VCI] [p = number of ports per card] [c = number of cards in system]
IFup:VPI1:VCI1+p*(c-1)-2		IFc:VPI0+p-2:VCI1
IFup:VPI1:VCI1+p*(c-1)-1		IFc:VPI0+p-1:VCI1
.		.
IFup:VPIm:VCIm		IF1:VPI0:VCIc-1
IFup:VPIm:VCIm+1		IF1:VPI0+1:VCIc-1
.		.
IFup:VPIm:VCIm+p-2		IF1:VPI0+p-2:VCIc-1
IFup:VPIm:VCIm+p-1		IF1:VPI0+p-1:VCIc-1
IFup:VPIm:VCIm+p		IF2:VPI1/ VCIc-1
IFup:VPIm:VCIm+p+1		IF2:VPI2:VCIc-1
.		.
IFup:VPIm:VCIm+p*(c-2)		IF2:VPI0/ VCI0
IFup:VPIm:VCIm+p*(c-2)+1		IF2:VPI0+1:VCI0

FIG. 14C

220 VCL VARIABLE	VALUE
222 IFINDEX	
224 VPI	
226 VCI	
228 TRAFFIC PROFILE UP	
230 TRAFFIC PROFILE DOWN	

FIG. 15

232 AUTO-CONFIGURATION RECORD	
AUTO-CONFIGURATION VARIABLE	VALUE
234 INTERFACE ID	
236 CHANNEL	
238 BASE VPI	
240 BASE VCI	

FIG. 16

Exhibit 1005, Page 15 of 18

TOTHO" E605E760

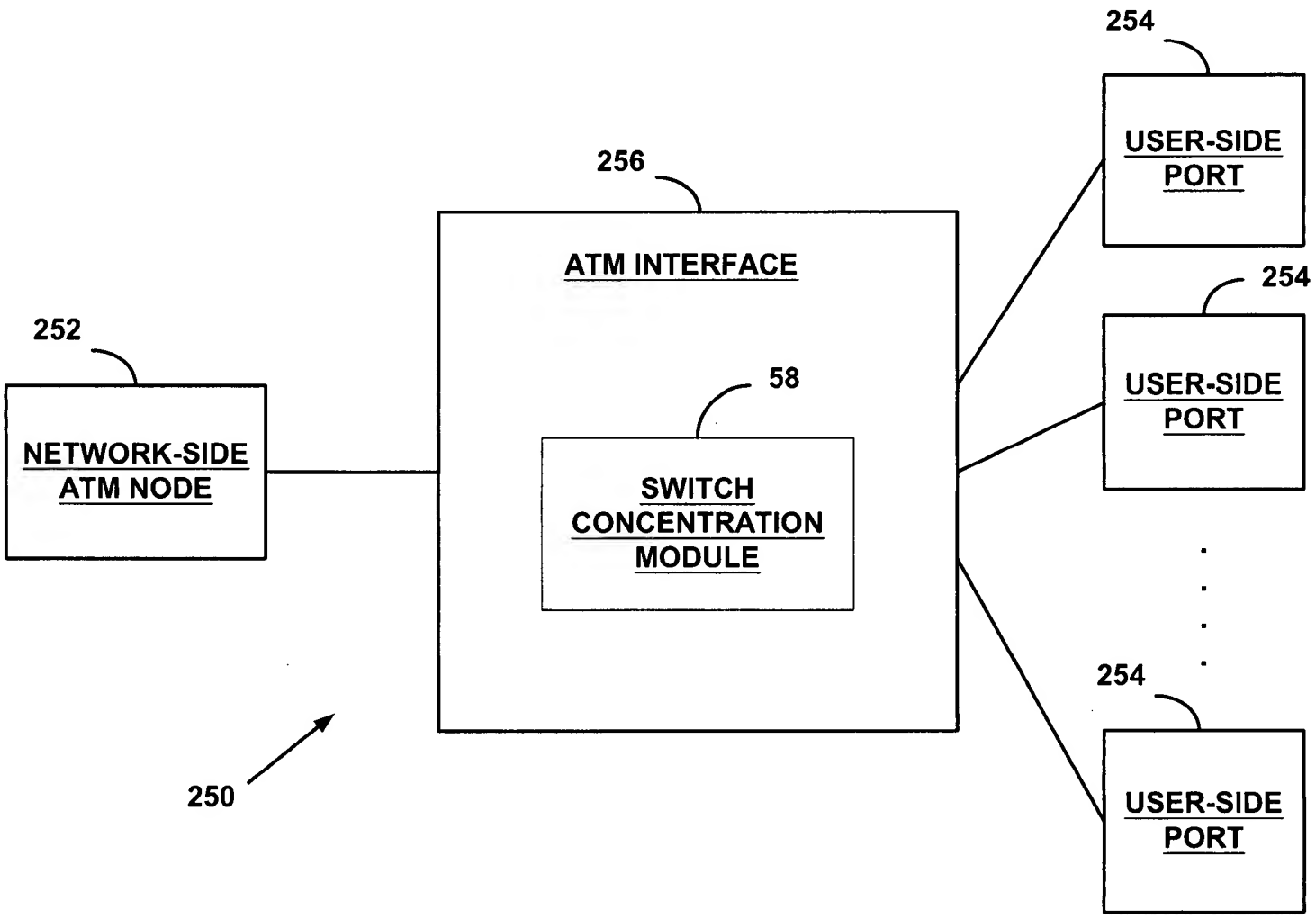

FIG. 17

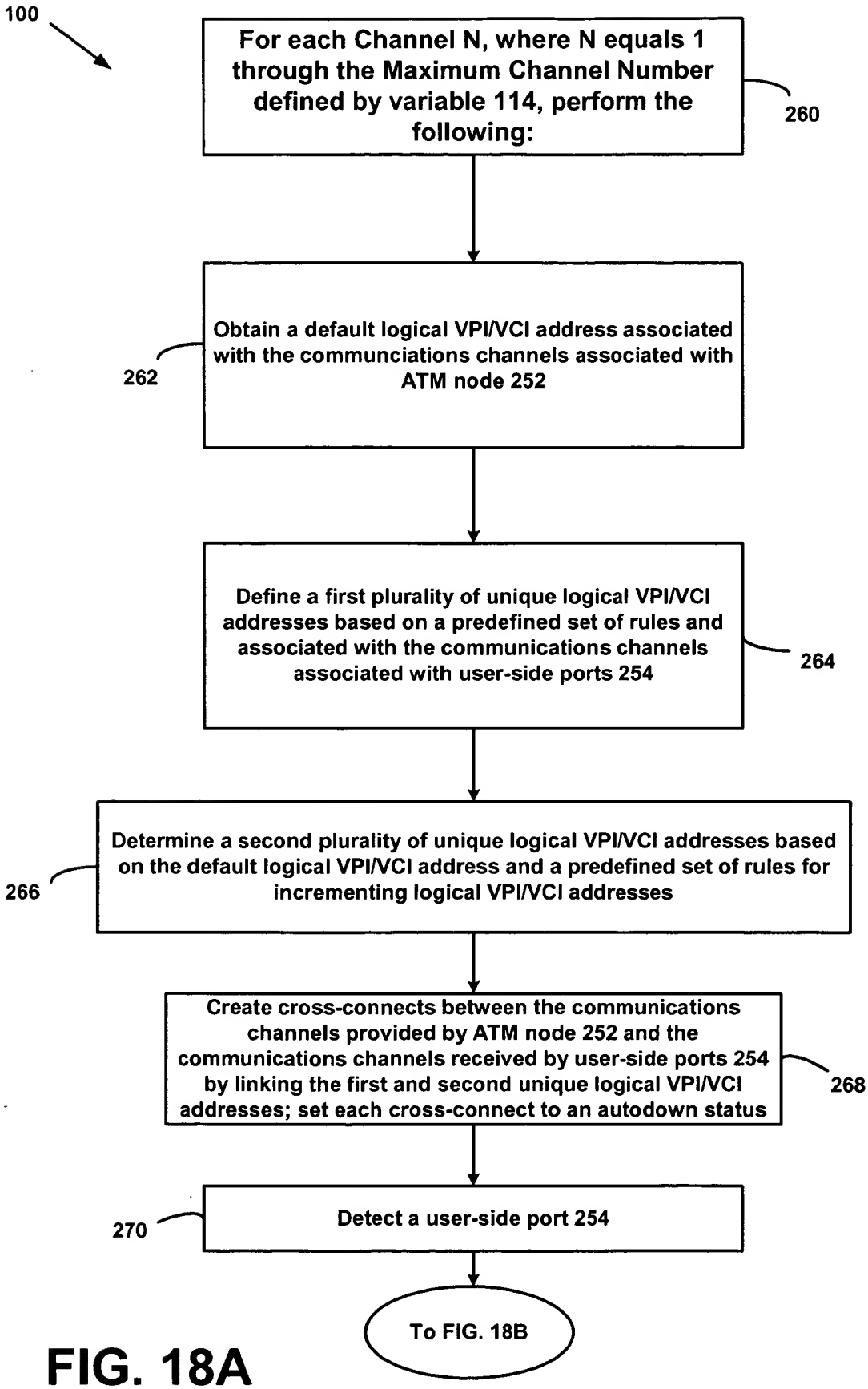

FIG. 18A

Document: 0950360v1

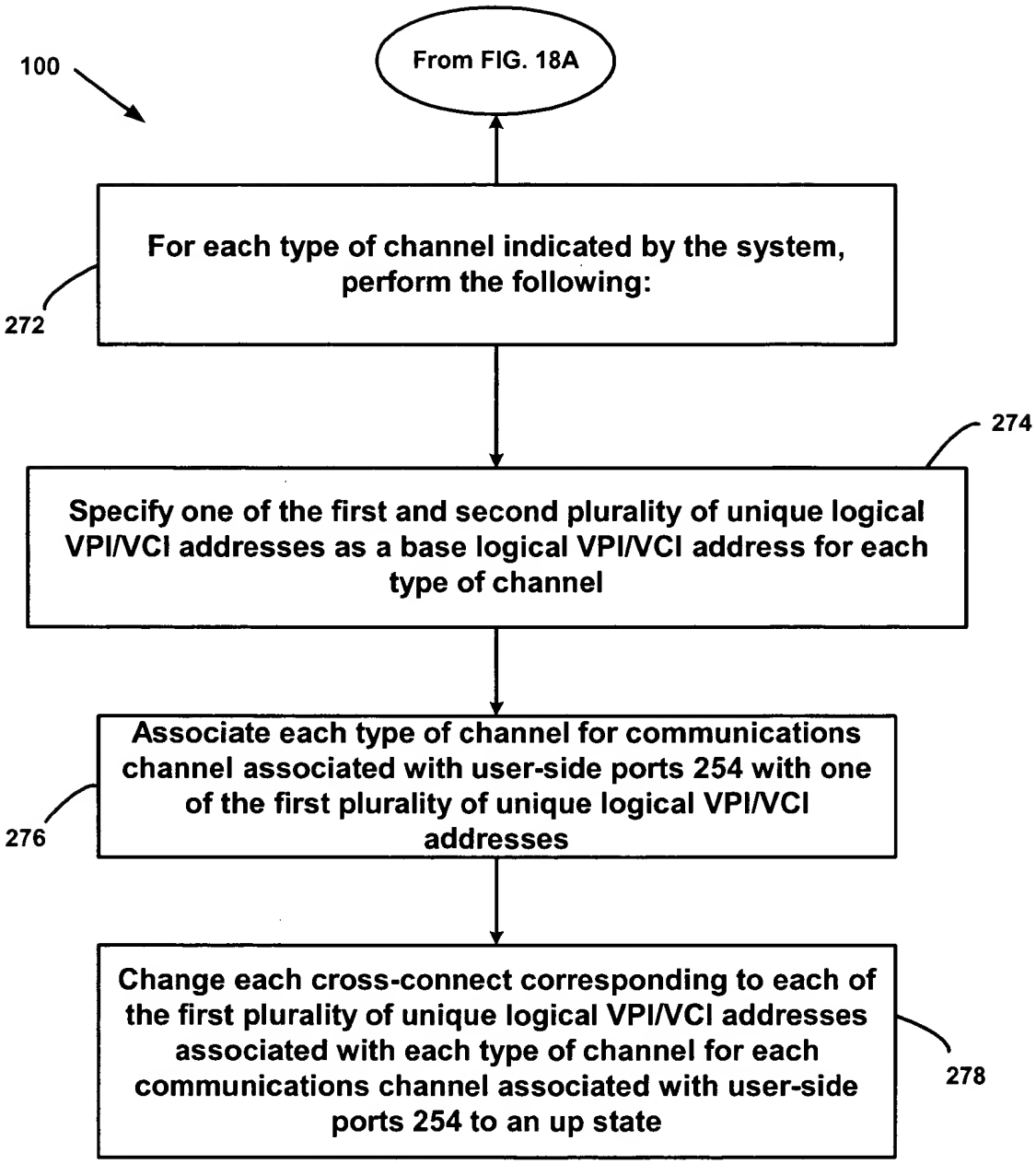
100
From FIG. 18A
For each type of channel indicated by the system, perform the following:
272
274
Specify one of the first and second plurality of unique logical VPI/VCI addresses as a base logical VPI/VCI address for each type of channel
Associate each type of channel for communications channel associated with user-side ports 254 with one of the first plurality of unique logical VPI/VCI addresses
276
Change each cross-connect corresponding to each of the first plurality of unique logical VPI/VCI addresses associated with each type of channel for each communications channel associated with user-side ports 254 to an up state
278

FIG. 18B